

## **Abstract**

### **Pulse modulator and method for pulse modulation**

The proposed pulse modulator has a subtraction stage which produces a control error signal from the difference between the complex input signal and a feedback signal, as well as a signal conversion stage which converts the control error signal to a control signal. The control signal is multiplied by a complex mixing signal at the frequency  $\omega_0$  in a first multiplication stage. At least one of the real part and imaginary part of the up-mixed control signal is or are then quantized by a quantization stage, in order to produce a real pulsed signal in this way. The pulsed signal is then used to produce the feedback signal for the subtraction stage, in a feedback unit. The pulse modulator according to the invention allows the range of reduced quantization noise to be shifted toward a desired operating frequency  $\omega_0$ .

(Figure 2)